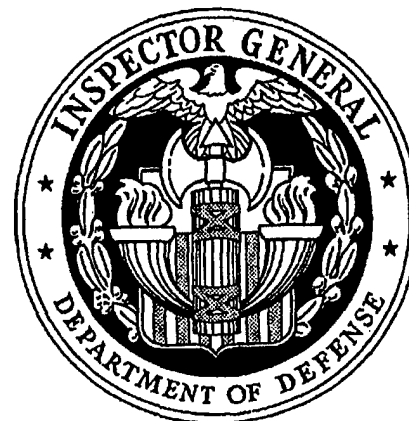


Audit Report



AIR FORCE LEVEL I LOGISTICS YEAR 2000
END-TO-END TEST PLANNING

Report No. D-2000-043

November 29, 1999

Office of the Inspector General
Department of Defense

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Acronyms

DUSD(L&MR)	Deputy Under Secretary of Defense (Logistics and Materiel Readiness)
PSA	Principal Staff Assistant
Y2K	Year 2000



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884

November 29, 1999

MEMORANDUM FOR DEPUTY UNDER SECRETARY OF DEFENSE
(LOGISTICS AND MATERIEL READINESS)
ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)

SUBJECT: Audit Report on Air Force Level I Logistics Year 2000 End-to-End Test
Planning (Report No. D-2000-043)

We are providing this report for review and comment. The Air Force did not respond to the draft report. DoD Directive 7650.3 requires that all recommendations be resolved promptly. Therefore, we request that the Air Force provide comments by December 15, 1999.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. Tilghman Schraden at (703) 604-9186 (DSN 664-9186) (tschraden@dodig.osd.mil) or Mr. Joseph M. Austin at (703) 604-9178 (DSN 664-9178) (jaustin@dodig.osd.mil). See Appendix E for the report distribution. The audit team members are listed inside the back cover.

A handwritten signature in black ink, reading "Robert J. Lieberman", is positioned above the typed name.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. D-2000-043
(Project No. 9LD-9024.05)

November 29, 1999

Air Force Level I Logistics Year 2000 End-to-End Test Planning

Executive Summary

Introduction. This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the year 2000 computing challenge. For a complete listing of audit projects addressing the issue, see the year 2000 web pages on the IGnet at <http://www.ignet.gov>.

The DoD Year 2000 Management Plan (DoD Management Plan) assigns responsibility to the Principal Staff Assistants for ensuring the end-to-end functional process flows that support their functional area are assessed either in a Joint Staff or commander in chief year 2000 operational evaluation, a Service-sponsored system integration test, or a functional area year 2000 end-to-end test. The Principal Staff Assistants are also responsible for planning, executing, and evaluating all mission-critical systems not otherwise tested and ensuring that processes that fall within their purview are evaluated. The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) (DUSD[L&MR]) acts on behalf of the Under Secretary of Defense for Acquisition, Technology, and Logistics, the Principal Staff Assistant for logistics, in performing those functions for the logistics functional area. Logistics end-to-end test planning was accomplished through the "Logistics Capstone Operational Assessment Plan for Year 2000" (Logistics Capstone Plan).

Logistics functional end-to-end testing was divided into three phases. Level I was intra-Component testing, and Level II was inter-Component testing. Level III testing was to be conducted as required to perform retesting. The DUSD(L&MR) provided oversight for Level II testing while delegating responsibility for execution of Level I testing to the Components. Air Force Level I testing began in February 1999 and was completed in late October 1999.

Objective. The audit objective was to evaluate the effectiveness of the year 2000 end-to-end tests planned for the logistics functional area. This report, the sixth in a series on logistics end-to-end testing, addresses the overall Level I end-to-end test planning accomplished by the Air Force. Level II end-to-end testing for the Air Force was addressed in Inspector General, DoD, Report No. 00-021, "Air Force Logistics Year 2000 End-to-End Test Planning," October 26, 1999.

Results. The Air Force Level I end-to-end test planning for core logistics processes did not meet the requirements outlined in the DoD Management Plan and the Logistics Capstone Plan. Although the Air Force identified 22 core logistics processes that were critical to the Air Force and planned to test 14 of the core processes and 22 mission-critical logistics systems during Level I end-to-end testing, the Air Force did not develop a sufficiently detailed plan for conducting the tests. As a result, the ability to analyze the sufficiency of required testing of core logistics processes and mission-critical logistics systems was hampered. As of October 27, 1999, the Air Force had prepared test results for only 3 of 7 planned test scenarios involving 7 of the 14 core processes and 21 of the 22 mission-critical systems. However, the Air Force did plan to perform the verification and validation of 100 percent of mission-critical code. See the Finding section for details.

Summary of Recommendations. We recommend that the Chief Information Officer, Department of the Air Force, ensure that contingency plans for the 22 mission-critical logistics systems that were to be included in Level I end-to-end testing are tested. We also recommend that the Chief Information Officer ensure that a risk management plan that includes a risk assessment and mitigation plan for each of the Air Force core logistics processes is developed.

Management Comments. A draft of this report was issued on November 5, 1999. The Air Force did not respond to the draft report. We request that the Chief Information Officer, Department of the Air Force, provide written comments on this final report by December 15, 1999.

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Background

Executive Order. Because of the potential failure of computers to function throughout the Government, the President issued Executive Order 13073, "Year 2000 Conversion," February 4, 1998, making it policy that Federal agencies ensure that no critical Federal program experiences disruption because of the year 2000 (Y2K) problem. The order requires that the head of each agency ensure that efforts to address the Y2K problem receive the highest priority attention in the agency.

DoD Y2K Management Strategy. In his role as the DoD Chief Information Officer, the Senior Civilian Official, Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence), issued the "DoD Year 2000 Management Plan, Version 2.0" (DoD Management Plan) in December 1998. The DoD Management Plan required DoD Components to implement a five-phase (awareness, assessment, renovation, validation, and implementation) Y2K management process to be completed by December 31, 1998, for mission-critical systems.

The DoD Management Plan also provides guidance for implementing the Deputy Secretary of Defense memorandum, "Year 2000 (Y2K) Verification of National Security Capabilities," August 24, 1998, that requires that each Principal Staff Assistant (PSA) of the Office of the Secretary of Defense "verify that all functions under his or her purview will continue unaffected by Y2K issues." That verification was to be performed after completion of the five-phase management approach that culminated with completion of the implementation phase, December 31, 1998. That further testing, to be conducted during the first half of 1999, was planned and conducted from a mission perspective rather than a system perspective and would increase the confidence that any errors or omissions in system remediation would be found. The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) (DUSD[L&MR]) acts on behalf of the Under Secretary of Defense for Acquisition, Technology, and Logistics, the PSA for logistics.

DoD Logistics End-to-End Planning. The DUSD(L&MR) implemented and executed key components of the DoD Management Plan in his efforts to adequately plan for and manage logistics functional end-to-end testing. Test planning was accomplished through the "Logistics Capstone Operational Assessment Plan for Year 2000" (Logistics Capstone Plan), dated October 30, 1998, and approved in November 1998. The Logistics Capstone Plan provided the overall strategy for conduct of the logistics end-to-end testing and was coordinated with the Services, the Defense Logistics Agency, the Joint Interoperability Test Command, and the Joint Staff. The October 1998 Logistics Capstone Plan was updated in February 1999 and again in May 1999 to reflect evolving schedules and processes. Its name was changed to "Logistics Capstone Plan for Year 2000 End-to-End Test" as part of the February update. In this report, unless otherwise noted, Logistics Capstone Plan refers to the May 20, 1999, version.

Objective

The audit objective was to evaluate the effectiveness of the Y2K end-to-end tests planned for the logistics functional area. This report, the sixth in a series on logistics end-to-end testing, addresses the overall Level I end-to-end test planning accomplished by the Air Force. Level II end-to-end testing for the Air Force was addressed in Inspector General, DoD, Report No. 00-021, "Air Force Logistics Year 2000 End-to-End Test Planning," October 26, 1999. See Appendix A for a discussion of the audit scope and methodology and Appendix B for a summary of prior coverage.

Air Force Planning for Level I Logistics Functional End-to-End Testing

The Air Force Level I end-to-end test planning for core logistics processes did not meet the requirements outlined in the DoD Management Plan and the Logistics Capstone Plan. Although the Air Force identified 22 core processes that were critical to the Air Force and planned to test 14 of the core processes and 22 mission-critical logistics systems during Level I testing, the Air Force did not develop sufficiently detailed plans for conducting the tests. As a result, the ability to analyze the sufficiency of required testing of core processes and mission-critical systems was hampered. As of October 27, 1999, the Air Force had completed test results for only 3 of 7 planned test scenarios involving 7 of the 14 core processes and 21 of the 22 mission-critical systems. However, the Air Force did plan to perform the verification and validation of 100 percent of mission-critical code.

End-to-End Test Guidance

The Logistics Capstone Plan provides the overall strategy for conduct of the DoD logistics end-to-end testing. The Logistics Capstone Plan defines three levels of testing and delegates responsibility for each. The multilevel test approach consisted of intra-Component events (Level I), inter-Component events (Level II), and post-test activities that include retest (Level III). Level I tests were designed to ensure processes and systems within a Component's organizational boundaries are Y2K ready. Level II testing was to verify core processes and information flows that involve more than a single Component are Y2K ready. The execution and oversight of the Level I testing was delegated to the Components while DUSD(L&MR) focused on the Level II testing and post-test events, such as retest, during Level III.

Air Force Planning for End-to-End Testing

The Air Force Level I end-to-end test planning for core logistics processes did not meet the requirements outlined in the DoD Management Plan and the Logistics Capstone Plan. The Air Force did not issue a test plan specifically for Level I end-to-end testing. Therefore, our review was limited to an evaluation of the "U.S. Air Force Logistics Year 2000 Level II End-to-End Test Plan" (the Air Force Level II Test Plan), version 3.6.3, June 8, 1999, and the draft "Air Force Year 2000 Assessment Plan for Integrated Logistics" (the Air Force Assessment Plan), version 1.2, February 17, 1999. The Air Force implemented the Logistics Capstone Plan regarding Level II end-to-end testing with the issuance of the Air Force Level II Test Plan. However, the Air Force Level II Test Plan, which defines the Air Force strategy for its participation in the logistics end-to-end testing, does not fully address Level I logistics end-to-end testing.

The Air Force Level II Test Plan and the draft Air Force Assessment Plan were prepared in response to the DUSD(L&MR) tasking to support inter-Service assessment of standard logistics information systems. The Logistics Capstone Plan addresses the development of detailed plans for assessing mission-critical systems. The Air Force Level II Test Plan and the draft Air Force Assessment Plan did not fully address that guidance concerning the development of plans.

- They address assessment requirements for logistics processes that are within the Air Force integrated logistics area of responsibility.
- They provide only limited detail regarding the strategy for conducting logistics end-to-end testing.
- They do not clearly define roles and responsibilities for conducting Level I end-to-end tests; provide specific time frames for completing the tests; and provide details regarding data collection and analyses, which the Logistics Capstone requires.

Roles and Responsibilities. The Air Force Level II Test Plan and the draft Air Force Assessment Plan did not clearly define roles and responsibilities for conducting Level I end-to-end testing. The Air Force Level II Test Plan stated that the Air Force Central Design Activities at the Materiel Systems Group, Wright-Patterson Air Force Base, Ohio, and the Standard Systems Group, Maxwell Air Force Base-Gunter Annex, Alabama (the Central Design Activities), were responsible for conducting Level I testing of core processes and mission-critical systems. However, there was no detailed plan on the Air Force activities, mission-critical systems, or information flows that would be tested. The draft Air Force Assessment Plan provided only general guidance, stating that the installations and logistics systems program office integrated process team with members from all Air Force installations and logistics directorates, in conjunction with the Y2K offices of the domains being tested, will assign responsibilities to the appropriate organization within the domain being tested.

Time Frames. The Air Force did not establish a specific time frame for performing Level I end-to-end testing. The Air Force Level II Test Plan and the draft Air Force Assessment Plan did not state when Level I end-to-end testing was to begin. They simply stated that Level I end-to-end testing would end on May 5, 1999. According to Air Force officials, Level I end-to-end testing of its core processes and mission-critical systems began in February 1999 and was actually completed in late October 1999.

Data Collection and Analyses. The Air Force Level II Test Plan and the draft Air Force Assessment Plan did not specifically state how data regarding Level I end-to-end testing would be collected and analyzed. They included no detailed data collection procedures to provide instructions to test teams regarding data collection, processing, and analysis. Also, they included no detail on how data collected would be summarized for reporting to higher level Air Force officials.

The draft Air Force Assessment Plan stated that it was the responsibility of the installations and logistics systems program office integrated process team, along with the Y2K offices of the domains being tested, to aggregate, analyze, and

report the results of the tests. The same groups were responsible for briefing the leadership of the Air Force at appropriate intervals that were left undefined. The Logistics Capstone Plan required that a data collection and analysis strategy be developed that provided for sufficient information to support the design of the end-to-end tests, capture test results, and support post-testing activities. Post-testing activities include final analysis of test results, tracking the implementation of corrective actions for failures discovered during tests, and providing supporting back-up data for corporate-level assessment reports. The type of data and how it will be collected should be documented in a data collection and analysis plan. Without data collection and analysis plans, there was no organized or standardized approach among the participating systems, and there was no assurance that test goals would be met and that testing would be successfully accomplished.

Testing of Processes and Systems

The Air Force planned to test 14 of 22 core logistics processes and 22 mission-critical logistics systems during Level I end-to-end testing. The general approach taken by the Air Force was to identify critical functional processes and then identify the systems that supported those processes.

Core Processes Tested. The draft Air Force Assessment Plan identified 22 core logistics processes that were critical to the Air Force. Twelve core processes were determined to be the most critical. The initial plan was to test the 12 most critical processes during Level I and Level II end-to-end testing. Testing of the remaining 10 core processes would be based on the results of the initial test of the 12 core processes; the results of applying Y2K tools, such as code screening, to the mission-critical systems; the results of multiple functional testing in the test facility; the results of the independent verification and validation process review; and the availability of the crisis action team.

Although the Air Force initially identified 12 core processes for testing, 14 core processes were included in Level I end-to-end testing. However, the Air Force did not document its rationale for prioritizing and selecting the 14 core processes for evaluation as required by the Logistics Capstone Plan. The Central Design Activities consolidated the 14 core processes into 7 test scenarios. The Materiel Systems Group and Standard Systems Group were responsible for testing the core processes. Appendix C contains a list of the 22 core processes and the 7 test scenarios and 14 core processes actually selected by the Air Force for Level I end-to-end testing. Appendix D contains a list of the 22 mission-critical logistics systems and the 7 test scenarios that were to be included in Level I end-to-end testing.

Systems Tested. Of the 37 mission-critical logistics systems listed in the DoD Y2K Reporting Database as of October 1, 1999, the Air Force identified 22 mission-critical systems that supported the 14 core processes and planned to test them during Level I end-to-end testing. Of the 22 mission-critical systems, 4 were also evaluated during Level II end-to-end testing; 14 were also in, or planned to be in, operational evaluations or a Service-sponsored systems integration test.

Testing of 39 mission-critical logistics systems was addressed in Inspector General, DoD, Report No. 00-021, "Air Force Logistics Year 2000 End-to-End Test Planning," October 26, 1999. Prior to the issuance of that final report, the Air Force reclassified the Embedded Global Positioning System/Inertial Navigation System and the Improved Maintenance Management Program, and they are no longer included in the DoD Y2K Reporting Database as mission-critical logistics systems. The Embedded Global Positioning System/Inertial Navigation System was changed from a logistics to a weapon system. The Improved Maintenance Management Program was determined not to be a mission-critical system.

Test Results. The Air Force had not developed a detailed Level I end-to-end test plan that articulated test objectives and processing of results as outlined in the DoD Management Plan and the Logistics Capstone Plan. Also, reports for all completed tests had not been prepared as required. Therefore, we could not determine the status of the Level I end-to-end testing or whether the objectives of the test had been met.

As of late October 1999, results for only three of seven test scenarios had been provided, even though the test schedule provided by the Air Force showed that all seven test scenarios were scheduled to be completed by August 20, 1999. The DoD Management Plan calls for final test reports to be completed within 30 days of completion of testing. Air Force personnel at the system developing commands, the Materiel Systems Group and the Standard Systems Group, performed the independent verification and validation for the Air Force Level I end-to-end tests that were completed. However, because personnel responsible for the independent verification and validation of end-to-end tests are also integral parts of the commands performing the tests, this could be perceived as a lack of overall independence in the verification and validation of the end-to-end tests. The Logistics Capstone Plan states that Components must use independent agents to verify the test results.

Results from the 3 test scenarios showed that 21 of the 22 mission-critical systems scheduled for Level I testing were tested. Test Scenario No. 1 included two core processes, aerospace equipment maintenance process and engine/module requisition process, and eight mission-critical systems. Test Scenario No. 2 included four core processes, inventory management process, new workload process, requisition management process, and wartime processing scenario, and 11 mission-critical systems. Test scenario No. 4 included the deployment management process and three mission-critical systems. The Core Automated Maintenance System was included in Test Scenario No. 1 and Test Scenario No. 2. Results for the three test scenarios indicated no Y2K-related anomalies.

Contingency Plans and Risk Management

In addition to not having a Level I end-to-end test plan that clearly addressed roles and responsibilities, provided specific time frames for completing the testing, and provided details regarding data collection and analysis, the Air

Force Level II Test Plan and the draft Air Force Assessment Plan did not address testing of contingency plans or measures to minimize risk of Y2K-related system failures.

Contingency Plans. The DoD Management Plan stated that Y2K system contingency plans are required for all mission-critical systems and that all contingency plans should be validated or exercised to ensure potential actions are executable. The DoD Management Plan established a target date of June 30, 1999, for exercising of both system and operational contingency plans. However, the Logistics Capstone Plan extended the target completion date for exercising of individual contingency plans to September 1, 1999.

In a September 27, 1999, reply to a draft of Inspector General, DoD, Report No. 00-021, the Air Force stated that it was testing contingency plans for mission-critical logistics systems as part of Level I testing. The Air Force further stated that it may test contingency plans for other mission-critical systems, depending on the coverage and results that are achieved during the Level I tests. However, the Air Force did not estimate the completion date for exercising contingency plans during Level I tests. Discussions with Air Force officials did not clarify the Air Force intentions on exercising the contingency plans for mission-critical systems involved or not involved in Level I testing. To reduce the risk that Y2K-related failures will impair mission capabilities, the Air Force needs to test contingency plans for all 22 mission-critical systems to ensure that adequate workarounds are in place in the event of Y2K-related system failures. The DoD Management Plan states that Y2K functional and operational end-to-end test exercises will be used to evaluate the Y2K contingency plans of designated mission-critical systems and will contribute to a complete evaluation of DoD operational capability.

Risk Assessments. The Air Force did not document the risk assessments performed during the process of prioritizing logistics processes for inclusion in end-to-end testing as required by the DoD Management Plan. The DoD Management Plan states that the Y2K event master planning sessions were to identify and prioritize core processes and perform risk assessments. The Logistics Capstone Plan identified four general categories of corporate-level risk: funding; scheduling; scope of testing; and test environment. It also assigned each category a risk rating of high, medium, or low, based on probability of occurrence and consequences of occurrence, as well as listed the mitigation of a particular risk. The Logistics Capstone Plan states that the discussion of corporate-level risks is an initial risk assessment. In addition, the Logistics Capstone Plan states that a complete risk mitigation plan will be incorporated in an overall risk management plan. DUSD(L&MR) had planned to draft a risk management plan on all core logistics processes by September 1999. The draft Air Force Assessment Plan did not include guidance on preparing or submitting a risk management plan to DUSD(L&MR) for the Air Force core logistics processes and systems. As a result, as of October 22, 1999, the Air Force had not completed a risk management plan for review and inclusion in the overall DUSD(L&MR) risk management plan. Therefore, DUSD(L&MR) did not have sufficient information to complete a risk management plan for all core logistics processes by September 1999, and may not be able to meet the revised goal of November 1999.

Additional Air Force Measures to Mitigate Risk. Inspector General, DoD, Report No. 00-021 addressed measures taken by the Air Force to mitigate risk of Y2K-related system failures. The Air Force policy requires that 100 percent of the code that impacts mission-critical processes be scanned using two code scanning tools. The code scanning effort initiated by the Air Force should assist in uncovering remaining Y2K-related errors, as well as providing system managers the opportunity to validate and fix those errors, and retest systems as needed. We were advised by Air Force officials that scanning of code that impacts mission-critical automated information systems is an ongoing effort.

Conclusion

The Air Force did not comply with the DoD Management Plan and the Logistics Capstone Plan in its efforts to plan and manage its logistics Level I end-to-end testing. Although the Air Force identified 22 core processes and planned to test 14 of the core processes and 22 mission-critical systems during Level I end-to-end testing, it did not develop sufficiently detailed plans for conducting the tests. Without such detailed Level I end-to-end test plans, there was no standardized testing approach. Also, without the detailed test plans, analysis to ensure that test goals were met and that testing was successfully accomplished for all critical core processes and related systems was hampered. In order to mitigate the risk of Y2K-related system failures, the Air Force needs to test contingency plans for the mission-critical systems that were to be included in Level I end-to-end testing and put a risk management plan in place for each of the Air Force core processes.

Recommendations

We recommend that the Chief Information Officer, Department of the Air Force:

1. Ensure that contingency plans for the 22 mission-critical logistics systems that were to be included in Level I end-to-end testing are tested.
2. Ensure that a risk management plan that includes a risk assessment and mitigation plan for each of the Air Force core logistics processes for the Level I end-to-end testing is developed and provided as soon as possible to the Deputy Under Secretary of Defense (Logistics and Materiel Readiness). The risk management plan should be based on probability of occurrence and consequences of occurrence, and list the mitigation for a particular risk.

Management Comments Required

The Air Force did not comment on a draft of this report. We request that the Chief Information officer, Department of the Air Force, provide written comments on this final report.

Appendix A. Audit Process

This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the Y2K computing challenge. For a listing of audit projects addressing the issue, see the Y2K web pages on IGnet at <http://www.ignet.gov>.

Scope and Methodology

Work Performed. We reviewed the Y2K test planning efforts of the Air Force for the logistics functional end-to-end testing. We evaluated the Y2K planning efforts and compared those efforts with the criteria contained in the DoD Management Plan and the Logistics Capstone Plan. We reviewed Public Law 105-261, Section 334; the Deputy Secretary of Defense memorandum of August 24, 1998; the DoD Management Plan; the Logistics Capstone Plan; the Air Force Level II Test Plan; the draft Air Force Assessment Plan; and other guidance regarding the testing of critical core logistics processes and mission-critical systems. Documents reviewed were dated from October 1998 through September 1999. We interviewed personnel within the offices of the DUSD(L&MR), the Air Force Deputy Chief of Staff for Installations and Logistics, and the Air Force Y2K Program Office. We also interviewed contractor representatives involved with end-to-end testing.

Limitations to Scope. Our review was limited to test planning accomplished by the Air Force for Level I logistics end-to-end testing.

DoD-Wide Corporate-Level Goals. In response to the Government Performance and Results Act, DoD established 2 DoD-wide corporate-level goals and 7 subordinate performance goals. This report pertains to achievement of the following goal and subordinate performance goal.

Goal 2: Prepare now for an uncertain future by pursuing a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. Transform the force by exploiting the Revolution in Military Affairs and reengineering the Department to achieve a 21st century infrastructure. **Performance Goal 2.2:** Transform U.S. military forces for the future. (00-DoD-2.2)

DoD Functional Area Reform Goals. Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following objectives and goals in the Information Technology Management Functional Area.

- **Objective:** Become a mission partner. **Goal:** Serve mission information users as customers. (ITM-1.2)
- **Objective:** Provide services that satisfy customer information needs. **Goal:** Modernize and integrate Defense information infrastructure. (ITM-2.2)

-
- **Objective:** Provide services that satisfy customer information needs.
Goal: Upgrade technology base. (ITM-2.3)

High-Risk Area. In its identification of risk areas, the General Accounting Office has specifically designated risk in resolution of the Y2K problem as high. This report provides coverage of that problem and of the overall Information Management and Technology high-risk area.

Audit Type, Dates, and Standards. We performed this program audit from June through October 1999 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We did not use computer-processed data for this audit.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD. Further details are available on request.

Management Control Program. We did not review the management control program related to the overall audit objective because DoD recognized the Y2K issue as a material management control weakness area in the FY 1998 Annual Statement of Assurance.

Appendix B. Summary of Prior Coverage

The General Accounting Office and the Inspector General, DoD, have conducted multiple reviews related to Y2K issues. General Accounting Office reports can be accessed over the Internet at <http://www.gao.gov>. Inspector General, DoD, reports can be accessed over the Internet at <http://www.dodig.osd.mil>. The reports most relevant to the subject matter of this report are listed below.

General Accounting Office

General Accounting Office Report No. GAO/AIMD-99-172 (OSD Case No. 1823), "Defense Computers: Management Controls Are Critical to Effective Year 2000 Testing," June 30, 1999.

Inspector General, DoD

Inspector General, DoD, Report No. D-2000-040, "Navy Logistics Year 2000 End-to-End Test Planning," November 16, 1999.

Inspector General, DoD, Report No. D-2000-036, "Defense Logistics Agency Logistics Year 2000 End-to-End Test Planning," November 12, 1999.

Inspector General, DoD, Report No. D-2000-033, "Army Logistics Year 2000 End-to-End Test Planning," November 5, 1999.

Inspector General, DoD, Report No. 00-021, "Air Force Logistics Year 2000 End-to-End Test Planning," October 26, 1999.

Inspector General, DoD, Report No. 00-002, "Year 2000 End-to-End Testing: Logistics Capstone Plan," October 1, 1999.

Appendix C. Air Force Core Logistics Processes

Process Number	Process Title	1	2	3	4	5	6	7
1 *	Inventory Management Process		X					
2 *	Deployment Management Process				X			
3 *	Requisition Management Process		X					
4 *	Asset Shipment Management Process					X		
5 *	Transportation Management Process					X		
6 *	Aerospace Equipment Maintenance Process						X	
7 *	Aerospace Equipment Configuration Process	X					X	
8 *	Aerospace Weapon System Inspection Process						X	
9 *	Production Reporting Process			X				
10 *	Wartime Processing Scenario		X					
11 *	Engine/Module Requisition Process							
12 *	Depot Repair Process (Requirements)	X						X
13	Equipment Management Process							
14	Depot Repairable Processing Process							
15 *	Air Force Equipment Management Process					X		
16 *	New Workload Process		X					
17	Asset Risk Management Process							
18	File Status Management Process							
19	Stock List Change Process							
20	End Item Sales Pricing Process							
21	Labor Hour Reporting Process							
22	Financial Management Systems Flow Process							
Scenario								
1	Engine Module Requisition/Management Process							
2	Inventory Management/Requisition							
3	Production Reporting Process							
4	Deployment Management Process							
5	Asset Shipment/Transportation Process							
6	Aerospace Equipment Process							
7	Depot/Ammo Inventory Requirements Process							

Note: The processes listed represent the original 22 that were later reduced to 14 that were to be included in Level I end-to-end testing.

* 14 processes selected for test scenarios.

Appendix D. Air Force Mission-Critical Logistics Systems

System Name	Central Design Activity (CDA) Test Scenario						
	1	2	3	4	5	6	7
Cargo Movement Operations System				X			
Combat Ammunition System		X					
Combat Ammunition System - Air Logistics Center		X					
Combat Ammunition System - Base Level		X					
Comprehensive Engine Management System	X						
Comprehensive Engine Management System Actuarial Subsystem	X						
Comprehensive Engine Management System Configuration Management	X						
Comprehensive Engine Management System Distribution Subsystem	X						
Comprehensive Engine Management System Inventory Management Subsystem	X						
Comprehensive Engine Management System Status Reporting and File	X		X				
Comprehensive Engine Management System Total Management System	X						
Computer Aided Load Manifesting				X			
Core Automated Maintenance System	X	X				X	
Core Automated Maintenance System for Mobility		X					
Execution and Prioritization of Repairs Support System		X					
Item Manager Wholesale Requisition Process		X	X		X		X
Logistics Module Base Level				X			
Recoverable Assembly Management Process		X					
Special Support Stock Control and Distribution System					X	X	
Standard Base Supply System						X	
Sustainability Assessment Module							
Wholesale and Retail Receiving and Shipping							

Scenario	CDA Title
1	Engine Module Requisition/Management Process
2	Inventory Management/Requisition
3	Production Reporting Process
4	Deployment Management Process
5	Asset Shipment/Transportation Process
6	Aerospace Equipment Process
7	Depot/Ammo Inventory Requirements Process

Appendix E. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition, Technology, and Logistics
Deputy Under Secretary of Defense (Logistics and Materiel Readiness)
Director, Defense Logistics Studies Information Exchange
Under Secretary of Defense (Comptroller)
Deputy Chief Financial Officer
Deputy Comptroller (Program/Budget)
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
Deputy Chief Information Officer and Deputy Assistant Secretary of Defense (Chief
Information Officer Policy and Implementation)
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Director, Joint Staff

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Auditor General, Department of the Army
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Department of the Navy

Assistant Secretary of the Navy (Financial Management and Comptroller)
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Director, Defense Logistics Agency
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Inspector General, National Security Agency
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National Security Division Special Projects Branch
Federal Chief Information Officers Council
General Accounting Office
National Security and International Affairs Division
Technical Information Center
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Director, Defense Information and Financial Management Systems

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Special Committee on the Year 2000 Technology Problem
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member (cont'd)

House Subcommittee on Government Management, Information, and Technology,
Committee on Government Reform
House Subcommittee on National Security, Veterans Affairs, and International
Relations, Committee on Government Reform
House Subcommittee on Technology, Committee on Science

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